

## Directly Driven Extruder With an Adapter

### Patent Claims

1. Extruder device with an extruder worm (4) and a worm drive (1, 2),
  - which (1, 2) includes a drive motor (1),
  - which exhibits a rotor (8),
  - which during operation is connected to the extruder worm (4) in such a manner that the rotor (8) and the extruder worm (4) rotate at the same speed during operation and
  - which can be connected to detachable torque-transmitting elements (6, 14, 15), which transmit torque between the rotor (8) and the extruder worm (4) and which can be detached when retrofitting work occurs,
  - where the detachable torque-transmitting elements (6, 14, 15) include a torque transmission point, at which torque is transmitted from one bushing (14) to a connecting section (6), which is at least partially encompassed by the bushing (14),

**characterized in that**

the torque transmission point in the axial direction is located outside the rotor (8).
2. Extruder device, as claimed in claim 1,

**characterized in that**

the torque-transmitting elements (6, 14, 15) are arranged between the rotor (8) and the extruder worm (14).

3. Extruder device, as claimed in any one or several of the preceding claims,  
**characterized in that**  
the torque-transmitting elements (6, 14, 15) include a screw connection (15) that runs in the axial direction and with which the bushing (14) and the connecting section (6) can be connected so as to be rotationally rigid.
4. Extruder device, as claimed in any one or several of the preceding claims,  
**characterized in that**  
at least one of the torque-transmitting elements (6, 14, 15) is at least partially encompassed by a housing (16), which is rigidly connected to the housing (5) of the extruder worm (4).
5. Extruder device, as claimed in claim 4,  
**characterized in that**  
the housing (12) of the drive motor (1) is connected detachably to the housing (16), which encompasses at least partially the torque-transmitting elements (6, 14, 15).
6. Extruder device, as claimed in claim 4 or 5,  
**characterized in that**  
at least one of the torque-transmitting elements (6, 14, 15) is braced against the encompassing housing (16) by means of roller bearings and/or ball bearings (17).
7. Extruder device, as claimed in the preceding claim,  
**characterized in that**  
the roller bearing (17) is an angular contact bearing, which can absorb the axial forces.
8. Extruder device, as claimed in any one of the two preceding claims,  
**characterized in that**  
at least one torque-transmitting element (6, 14, 15) is the bushing (14).